U.S. Serial No. 09/685,288
Final Office Action of 9/21/2005
Amendment dated 01/20/2006

IN THE CLAIMS:

Claims 1 – 12. (cancelled)

13. (Currently Amended) ~~The method of claim 12 wherein~~ A computer-implemented method for identifying critical faults from unranked fault data collected from a fleet of locomotives, the method comprising:

a) collecting from a group of the fleet of locomotives respective locomotive data indicative of each fault logged over a predetermined period of time;

b) classifying respective faults in the collected locomotive data based on the following criteria:

1) relative frequency of fault occurrence;

2) number of locomotives affected in the group; and

3) expected level of reduction in locomotive operational performance;

wherein any of the three criteria comprises a first basis of classification, and a second classification is based on the results of the first classification so that any faults found to be critical include properties in at least two of the classifications, and further wherein all three criteria are separately considered in sequence and further wherein each classification is based on the results of any previous classification so that the faults found to be critical include properties in all three classifications; and

c) storing any faults found to be critical in a database comprising critical faults.

2

U.S. Serial No. 09/685,288
Final Office Action of 9/21/2005
Amendment dated 01/20/2006

14. (Currently Amended) ~~The method of claim 12~~ A computer-implemented method for identifying critical faults from unranked fault data collected from a fleet of locomotives, the method comprising:

a) collecting from a group of the fleet of locomotives respective locomotive data indicative of each fault logged over a predetermined period of time;

b) classifying respective faults in the collected locomotive data based on the following criteria:

1) relative frequency of fault occurrence;

2) number of locomotives affected in the group; and

3) expected level of reduction in locomotive operational performance;

wherein any of the three criteria comprises a first basis of classification, and a second classification is based on the results of the first classification so that any faults found to be critical include properties in at least two of the classifications; and

c) storing any faults found to be critical in a database comprising critical faults, and wherein the database of critical faults is used in a process for assigning priorities to communications of electronic data between a diagnostic service center and a plurality of locomotives generally remote relative to each other, the assigned priorities being used for managing the handling of such communications, the electronic data comprising at least respective new locomotive data from selected locomotives, the process comprising:

storing in a database a list of respective cases to be processed;

assigning to each case a respective download priority based on the existence of critical faults in the case; and

determining each case to be populated next with new locomotive data based at least upon the assigned download priority.

15. (Previously Presented) The method of claim 14 further comprising executing a download of new locomotive data wherein said download of new locomotive data is triggered upon a call from a respective locomotive to the service center, the call identifying occurrence in the respective locomotive of one or more faults of the type stored in the critical fault database.

3

16. (Previously Presented) The method of claim 15 further comprising prioritizing analysis of locomotive data including critical faults.

17. (Cancelled).

18. (Previously Presented) ~~The system of claim 17~~ <u>A system for identifying critical faults from unranked fault data collected from a fleet of locomotives, the system comprising:</u>

<u>memory configured to collect from a group of the fleet of locomotives respective locomotive data indicative of each fault logged over a predetermined period of time;</u>

<u>a first classifier configured to classify in the collected locomotive data respective faults most frequently occurring relative to one another;</u>

<u>a second classifier configured to classify in the most frequently occurring faults from the first classifier, respective faults that, relative to one another, affect a higher number of locomotives in the group;</u>

<u>a third classifier configured to classify the faults from the second classifier based on an expected level of I reduction in locomotive operational performance; and</u>

<u>a database coupled to the third classifier to store any faults classified as likely to result in an imminent locomotive mission failure, the stored faults comprising the plurality of critical faults, and</u> wherein the database of critical faults is used in a processor for managing communication of electronic data between a diagnostic service center and the plurality of locomotives situated generally remote relative to each other, the electronic data comprising new locomotive data used from selected locomotives, the processor comprising:

a module configured to execute a download of the new locomotive data wherein said download of new locomotive data is triggered upon a call from a respective locomotive to the service center, the call identifying occurrence in the respective locomotive of one or more faults of the type stored in the critical fault database.

4

U.S. Serial No. 09/685,288
Final Office Action of 9/21/2005
Amendment dated 01/20/2006

19. (Previously Presented) The system of claim 18 wherein the call to the service center is automated upon detection in the locomotive of one or more of the faults of the type stored in the critical fault database.

Claims 20 - 26. (cancelled)

27. (Currently Amended) ~~The system of claim 26~~ A system for identifying critical faults in unranked fault data collected from a fleet of locomotives, the system comprising:

memory configured to collect from a group of the plurality of locomotives respective locomotive data indicative of each fault logged over a predetermined period of time;

a processor configured to classify respective faults in the collected locomotive data based on the following criteria:

1)   relative frequency of fault occurrence;

2)   number of locomotives affected in the group; and

3)   expected level of reduction in locomotive operational performance;

wherein any of the three criteria comprises a first basis of classification, and a second classification is based on the results of the first classification so that any faults found to be critical include properties in at least two of the classifications, and further wherein all three criteria are separately processed by the processor in sequence and further wherein each classification is based on the results of any previous classification so that the faults found to be critical include properties in all three classifications.

28. (Previously Presented) ~~The system of claim 26~~ A system for identifying critical faults in unranked fault data collected from a fleet of locomotives, the system comprising:

memory configured to collect from a group of the plurality of locomotives respective locomotive data indicative of each fault logged over a predetermined period of time;

5

U.S. Serial No. 09/685,288
Final Office Action of 9/21/2005
Amendment dated 01/20/2006

a processor configured to classify respective faults in the collected locomotive data based on the following criteria:

1) relative frequency of fault occurrence;

2) number of locomotives affected in the group; and

3) expected level of reduction in locomotive operational performance;

wherein any of the three criteria comprises a first basis of classification, and a second classification is based on the results of the first classification so that any faults found to be critical include properties in at least two of the classifications, and further wherein all three criteria are separately processed by the processor in sequence; and

a database for storing faults found to be critical, wherein the database of critical faults is used by a priority-assigner processor configured to assign priorities to communications of electronic data between a diagnostic service center and a plurality of locomotives generally remote relative to each other, the assigned priorities being used for managing the handling of such communications, the electronic data comprising at least respective new locomotive data from selected locomotives, the priority- assigner processor comprising:

a database configured to store a list of respective cases to be processed;

a module configured to assign to each case a respective download priority based on the existence of critical faults in the case; and

a module configured to determine each case to be populated next with new locomotive data based at least upon the assigned download priority.

29. (Previously Presented) The system of claim 26 further comprising a download module configured to execute a download of new locomotive data wherein said download of new locomotive data is triggered upon a call from a respective locomotive to the service center, the call identifying occurrence in the respective locomotive of one or more faults of the type stored in the critical fault database.

6